

**AMENDMENTS TO THE SPECIFICATION:**

Please replace the paragraph beginning at page 2, line 7, with the following amended paragraph:

The UV sensor in accordance with the present invention comprises an incident light window constituting part of the wall of a container, and a pin-type photodiode disposed inside the container and employed for photoelectrically converting the light that was transmitted through the incident light window, wherein the incident light window is composed of [[Kovar]] borosilicate glass and the pin-type photodiode comprises a photoabsorption layer formed from  $\text{In}_x\text{Ga}_{(1-x)}\text{N}$  ( $0 < x < 1$ ) between an n-type nitride semiconductor layer and a p-type nitride semiconductor layer.

Please replace the paragraph beginning at page 2, line 18, and bridging to page 3, line 3 with the following amended paragraph:

With the aforesaid UV sensor in accordance with the present invention, because the incident light glass [[if]] is formed from [[Kovar]] borosilicate glass, the light with a wavelength of about 300 nm or larger is selectively transmitted. Furthermore, because the photoabsorption layer of the pin-type photodiode disposed inside the container is formed from  $\text{In}_x\text{Ga}_{(1-x)}\text{N}$  ( $0 < x < 1$ ), the light with a wavelength of about 400 nm or less of the light that was transmitted [[thought]] through the incident light window is selectively photoelectrically converted. Therefore, only the light with a wavelength of about 365 nm can be selectively detected.

Please replace the paragraph beginning at page 3, line 4, with the following amended paragraph:

The incident light window composed of [[Kovar]] borosilicate glass is preferably formed to have a thickness of 200  $\mu\text{m}$  or more. As a result, the incident light window of sufficient mechanical strength can be obtained. At the same time, the light with a wavelength of 300 nm or less can be reliably shielded and only the light with a wavelength of 300 nm or more can be selectively transmitted.

Please replace the paragraph beginning at page 5, line 8, with the following amended paragraph:

FIG. 1 is a schematic cross-sectional view of a UV sensor of the embodiment. FIG. 2 is a schematic view illustrating a pin-type photodiode disposed inside the UV sensor shown in FIG. 1. Referring to FIG. 1, a UV sensor 1 comprises a container 5 in which the upper end opening of a metal side tube 2 is sealed with a front plate 3 composed of [[Kovar]] borosilicate glass as an incident light window and the lower end opening is sealed with a base plate 4. The front plate 3 serving as an incident light window constitutes part of the wall of container 5 by sealing the upper end opening of the metal side tube 2. The space inside the container 5 may be filled with air or nitrogen or evacuated.

Please replace the paragraph beginning at page 9, line 9, with the following amended paragraph:

The thickness of the front plate 3 composed of [[Kovar]] borosilicate glass is preferably at least 200  $\mu\text{m}$ , more preferably 500  $\mu\text{m}$  or more to obtain a sufficient mechanical strength required for an incident light window and to shield reliably the light with a wavelength of 300 nm or less. Furthermore, when the front plate is fused to a commercial metal side tube, it is desired that the front plate thickness be about 1 mm.

Please replace the paragraph beginning at page 9, line 18, and bridging to page 10, line 3, with the following amended paragraph:

With the UV sensor 1 of the above-described embodiment, because the front plate 3 serving as an incident light window is formed from [[Kovar]] borosilicate glass, the light with a wavelength of about 300 nm or less of the UV radiation incident upon the front plate 3 is absorbed by the front plate 3, and the light with a wavelength of about 300 nm or more is selectively transmitted.

Please replace the paragraph beginning at page 10, line 24, and bridging to page 11, line 10, with the following amended paragraph:

However, because the light with a wavelength of 300 nm or less has a high energy, if this light falls directly on the photodiode, the voltage resistance of the photodiode is degraded and sensitivity is decreased. With the UV sensor 1 of the present embodiment, because the front plate 3 composed of [[Kovar]] borosilicate glass has a thickness of 200  $\mu\text{m}$  or more, the light

with a wavelength of 300 nm or less is shielded. Therefore, the light with a wavelength of 300 nm or less which has a high energy, is cut off and only the low-energy light can be caused to fall upon the pin-type photodiode 6. Therefore, long-term stability of the pin-type photodiode 6 can be further increased.

Please replace the paragraph beginning at page 13, line 14, with the following amended paragraph:

A UV sensor was then obtained by fusing a front plate composed of [[Kovar]] borosilicate glass as an incident light window to a metal side tube and then fusing the metal side tube to the base plate.

Please replace the paragraph beginning at page 13, line 18, with the following amended paragraph:

In the present embodiment, the inside of the container composed of the metal side tube, base plate, and front plate was filled with a nitrogen atmosphere. Further, [[Kovar]] borosilicate hard glass (KB hard glass) manufactured by NEC Glass Components, Ltd. was used as the [[Kovar]] borosilicate glass constituting the front plate.

Please replace the paragraph beginning at page 13, line 24, and bridging to page 14, line 4, with the following amended paragraph:

In the aforesaid UV sensor, of the UV radiation falling on the front plate serving as an incident light window, the light with a wavelength of about 300 nm or less is absorbed by the

front plate composed of [[Kovar]] borosilicate glass. The light with a wavelength of more than about 300 nm or more is transmitted through the front plate and falls on the p-type contact layer.

Please replace the paragraph beginning at page 17, line 4, with the following amended paragraph:

FIG. 7 illustrates a spectral sensitivity characteristic of a UV sensor of the present embodiment which comprises a pin-type photodiode with a content ratio  $x$  of In in the  $In_xGa_{(1-x)}N$  photoabsorption layer of 0.01 and an incident light window composed of [[Kovar]] borosilicate glass. As shown in the figure, the peak value of sensitivity is close to a wavelength of 365 nm. Table 3 shows a detection sensitivity with respect to a wavelength of 405 nm, when the sensitivity at a wavelength of 365 nm is taken for 100.

Please replace the paragraph beginning at page 18, line 12, with the following amended paragraph:

With the UV sensor of the present invention, forming the incident light window of [[Kovar]] borosilicate glass and forming the photoabsorption layer of the pin-type photodiode from  $In_xGa_{(1-x)}N$  ( $0 < x < 1$ ) make it possible to detect selectively the light with a wavelength close to 365 nm.